Background Paper Series

PROVIDE PROJECT

The Provincial Decision-making Enabling Project

Background Paper 2003: 3

Demographics of South African Households – 1995

Elsenburg
September 2003

PROVIDE PROJECT

The Provincial Decision-making Enabling Project

Overview

The Provincial Decision-Making Enabling (PROVIDE) Project aims to facilitate policy design by supplying policymakers with provincial and national level quantitative policy information. The project entails the development of a series of databases (in the format of Social Accounting Matrices) for use in Computable General Equilibrium models.

The National and Provincial Departments of Agriculture are the stakeholders and funders of the PROVIDE Project. The research team is located at Elsenburg in the Western Cape.

PROVIDE Research Team

Project Leader:	Cecilia Punt
Senior Researchers:	Kalie Pauw
	Esther Mohube
Junior Researchers:	Benedict Gilimani
	Lillian Rantho
	Rosemary Leaver
Technical Expert:	Scott McDonald
Associate Researchers:	Lindsay Chant
	Christine Valente

PROVIDE Contact Details

Private Bag X1
Elsenburg, 7607
South Africa

ceciliap@elsenburg.com
+27-21-8085191
+27-21-8085210

For the original project proposal and a more detailed description of the project, please visit www.elsenburg.com/provide

Demographics of South African Households – 1995[1]

Abstract

This paper provides an overview of the demographics of the South African population based on the October Household Survey (OHS) and the Income and Expenditure Survey (IES), both conducted by Statistics South Africa in 1995. Figures and tables are used throughout to paint a picture of the structure of the South African population, both at household level (IES data) and individual level (OHS data). Specific reference is made to the racial and spatial composition of households and individuals, the age distribution of the population, household sizes and their structures, as well as educational attainment of individuals. A section is also devoted to labour market issues such as unemployment and occupations/skills of workers. The paper serves as a reference framework and aims to assist in defining policy questions.

[1] The main author of this paper is Lillian Rantho, Junior Researcher of the PROVIDE Project.

Table of contents

List of figures

List of tables

1. Introduction

This paper provides an overview of the demographics of the South African population. The paper serves as a reference framework and aims to assist in defining policy questions for purposes of the PROVIDE Project. The analysis is based on the 1995 October Household Survey (OHS 1995) and the 1995 Income and Expenditure Survey (IES 1995), both of which were conducted by Statistics South Africa (formerly the Central Statistical Services). The IES is conducted every five years with a view to gather highly detailed information about income and expenditure patterns of the households. Information is collected at household level. The OHS is conducted annually and focuses more on demographical information, such as age, education, and employment status of individuals within households. This survey was discontinued after 1999 and replaced by an annual Labour Force Survey.

The construction of various Social Accounting Matrices (SAM) for South Africa requires, among other datasets information from *both* the IES and the OHS. 1995 was the last year in which both surveys were conducted in the same year. Although the information is somewhat dated, the combination of the surveys provides useful additional information that would otherwise not be available. Although the surveys were not conducted at the same time each household has a unique household identification number that can be used to link the two survey datasets.[2]

The first part of the paper (section 2) will focus on the characteristics of households. The racial and demographic composition of the population and households are analysed in this section. The age distribution of households is also analysed in this section using population pyramids, a tool used to show the age and gender composition of the population. Issues surrounding labour markets, unemployment and education are reviewed in section 3. Shortly after the release of the 1995 data, Orkin (1995) conducted a study on behalf of Statistics South Africa. Since Orkin's study provided a fairly exhaustive description of the IES 1995 data this paper will frequently refer to it. His study however does not include information from the 1995 OHS.

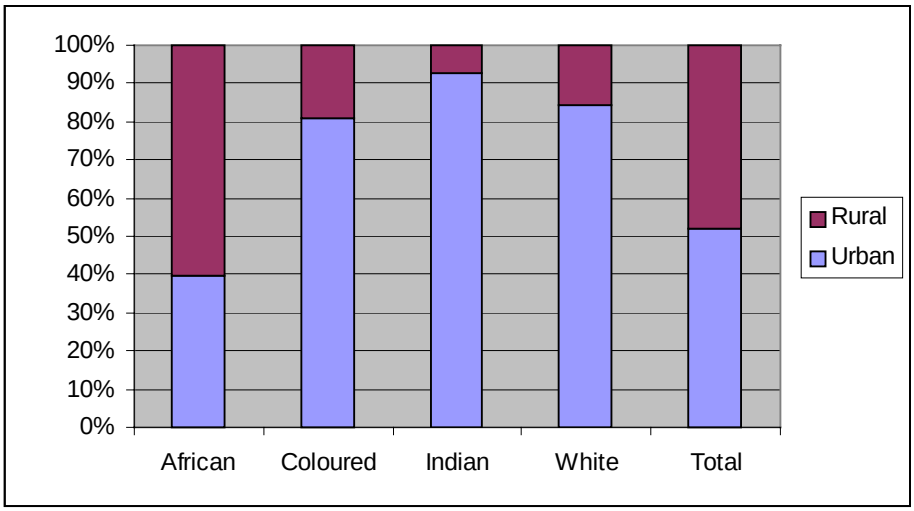
[2] The OHS was conducted first, while the IES was conducted at a later stage. In some cases the same households could not be located for the follow-up IES survey. This problem mainly occurred in informal settlements and rural areas where there were no physical addresses. See *Technical Paper 2003:2* for more details on how this issue was addressed.

2. Characteristics of households

2.1. Race, settlement and province

In 1995 roughly 50% of the population of 41.5 million people lived in urban areas and 50% live in rural areas (Orkin, 1995). This analysis (see Figure 1) shows that 52% of individuals live in urban areas. This differs slightly from the findings of Orkin due the use of 'unweighted' data[3]. The figure also provides a racial breakdown of settlement areas. The majority of Africans (61%) live in rural areas. For all the other race groups the majority of people live in urban areas, especially Indians.

Figure 1: Population by race and settlement

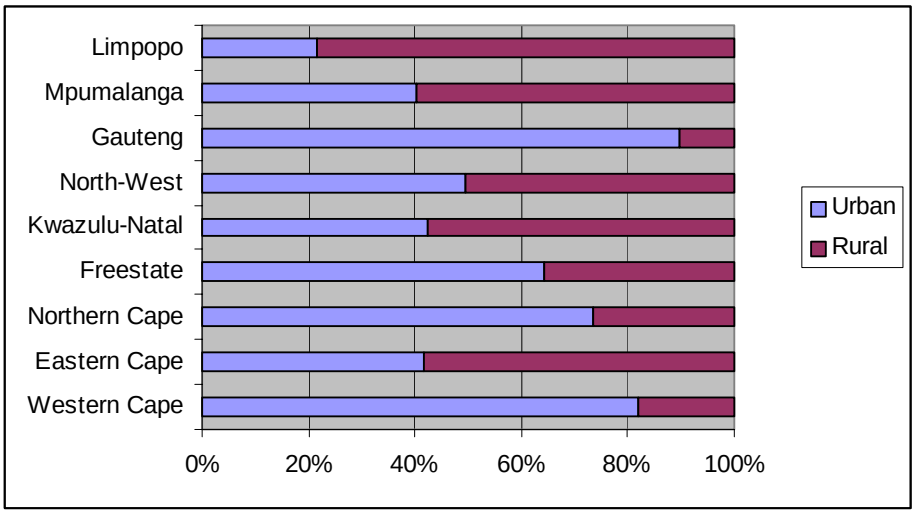


Source: OHS/IES 1995

Figure 2 shows the percentages of individuals living in rural and urban areas within each province. In Gauteng and the Western Cape province the majority (more than 80%) of individuals live in urban areas. In the Limpopo province the majority (78.3%) of the individuals live in rural areas followed by Mpumalanga and Eastern Cape province with 59.9% and 58.5% of the population living in rural areas respectively.

[3] The OHS and the IES were conducted on a sample of the total South African population. Although the sample is initially supposed to be a random one reflecting the composition of households or individuals at a national level, certain ex post adjustments are often necessary if new information (e.g. a Census) suggests that the sample is not representative. The weights initially published with the 1995 data sets and used by Orkin were based on the 1991 Census, but the 1996 Census revealed that the previous Census was biased. For this reason unweighted data are used due to limited information on the true weights.

Figure 2: Population by province and settlement



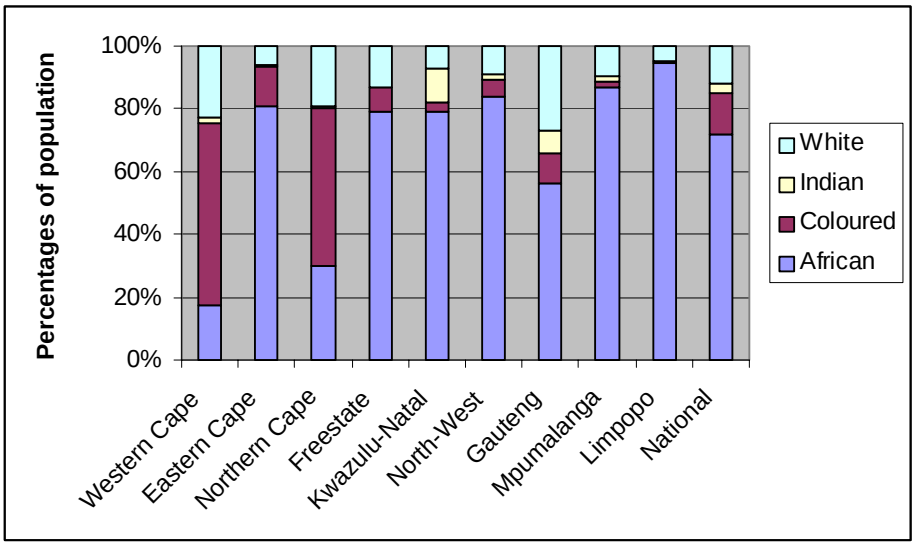
Source: OHS/IES 1995

Figure 3 and Table 1 show the percentages of the individuals by race and province. Although the Population Census for 1996 showed that there were Indians households living in Free State in 1996, none were captured in the IES and OHS due to their small sample size. Indian households were not allowed to live in Free State during the apartheid era, hence this resulted in their inadvertent exclusion from these surveys. Africans make up the largest proportion of the population in Limpopo (94.4%), Free state (79.15%), Kwazulu-Natal (79.08%), Eastern Cape (81.04%), North West (83.75%), Gauteng (56.47%) and Mpumalanga (86.69%). Coloureds make up the largest proportion of the population in the Western Cape (57.92%) and Northern Cape (50.31%). According to the survey the largest race is Africans with 71.77% of the population. Whites, Coloureds and Indians comprise 11.69%, 13.27% and 3.27% of the individuals, respectively.

Table 1: Population by race and province

	African	Coloured	Indian	White
Western Cape	17.28%	57.92%	1.99%	22.81%
Eastern Cape	81.04%	12.33%	0.38%	6.24%
Northern Cape	30.05%	50.31%	0.56%	19.07%
Free State	79.15%	7.39%	0	13.46%
KwaZulu-Natal	79.08%	3.25%	10.29%	7.38%
North-West	83.75%	5.26%	1.92%	9.07%
Gauteng	56.47%	9.67%	6.83%	27.03%
Mpumalanga	86.69%	1.99%	1.45%	9.86%
Limpopo	94.4%	0.7%	0.26%	4.64%
National	71.77%	13.27%	3.27%	11.69%

Figure 3: Population by race and province



Source: OHS/IES 1995

2.2. The age distribution of individuals

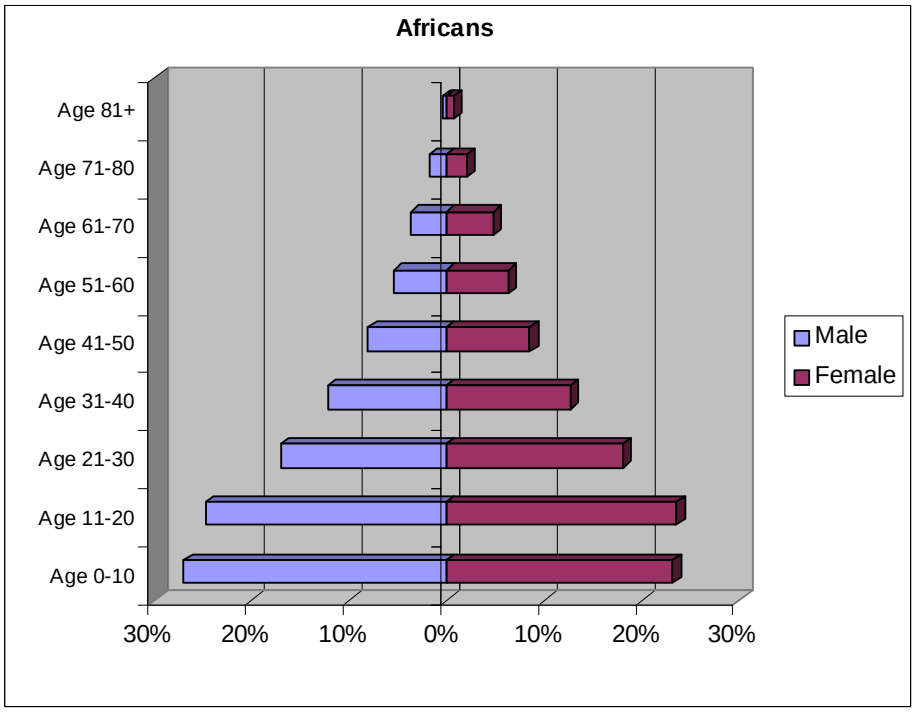
A tool used by demographers to show the age and gender composition of the population is a so-called age pyramid. Male and female individuals are grouped into a number of age brackets, and the contribution of each age bracket to the total number of males/ females in the population group is calculated. In this section such age pyramids are shown for each race group in South Africa.

Consider Figure 4, which shows the age pyramid for Africans. A large proportion of the African population is made up of male and female children aged between 0 to10 and 11 to 20 years. 52% and 47% of males and females, respectively, are 20 years or younger. The proportion of the people decreases quite rapidly as one moves to higher age categories. The shape of the age pyramid in Figure 4 is typical for that of developing countries (Orkin, 1995). A very large proportion of the population is made up of young children aged 0 to 10 years. This points at a high fertility rate among African women. The age groups 11 to 20 also contribute a large share of the population. However, there is a rather large drop when one move to the 21 to 30 age groups, a result that can only be explained by further investigation. A very small proportion of the African population reaches an old age, again evidence of poor health and a low life expectancy of African people.

The age pyramid for coloured people follows a similar shape, although the base is slightly narrower. The sides of the pyramid are 'straighter' compared to the convex sides of the African pyramid (as seen from the central axis of the pyramid). The age pyramids of Indian and White households follow the shape of developed countries, with lower fertility rates and

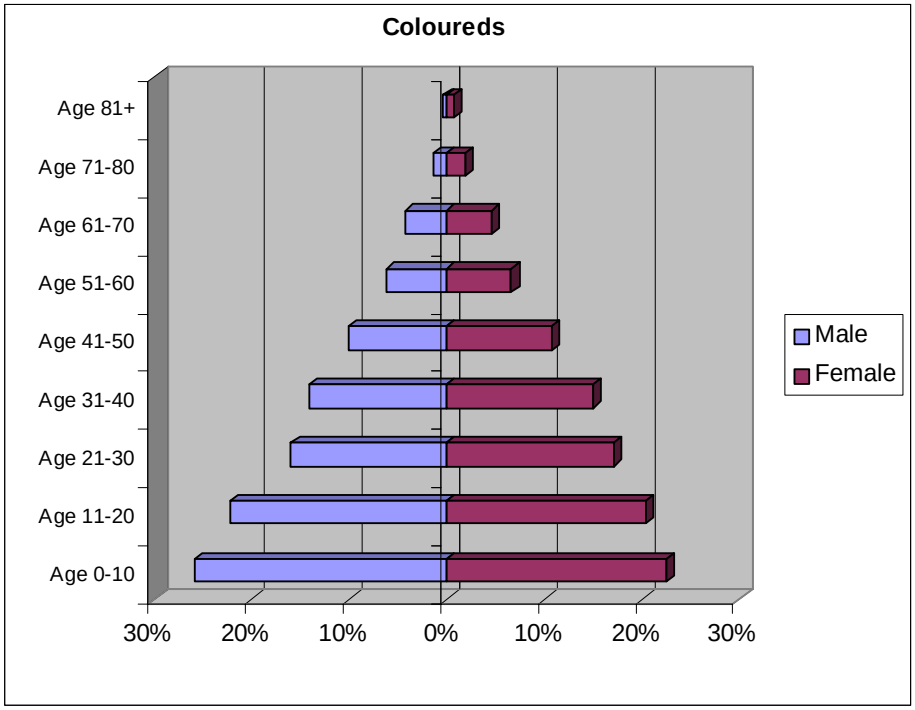
lower infant mortality rates, giving rise to a pyramid with a small base and concave sides. Old age persons make up a rather large share of the population due to improved medical assistance. This typical 'developed country shape' gives rise to an important problem in many developing countries, namely that fewer and fewer young working people have to support a growing number of old-age people, thus placing a large burden on the main contributors to social security networks.

Figure 4: Africans age pyramid



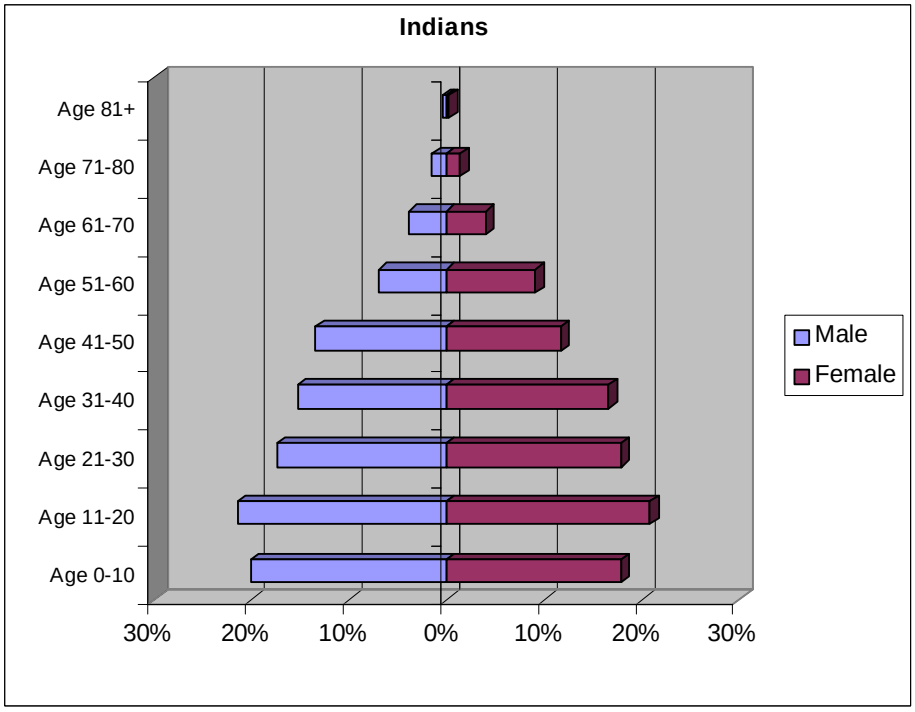
Source: OHS/IES 1995

Figure 5: Coloureds age pyramid



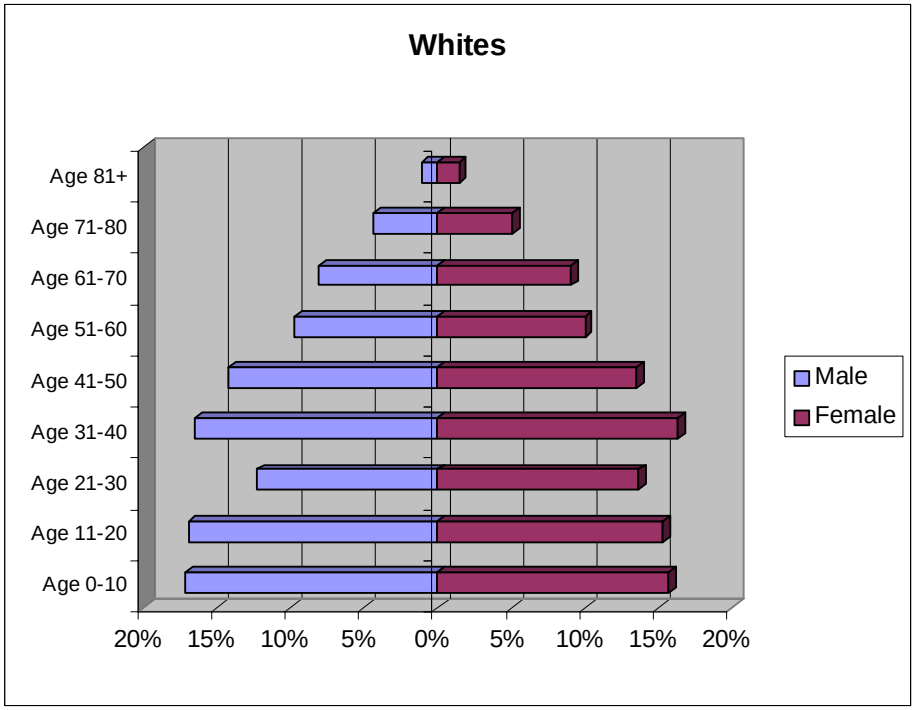
Source: OHS/IES 1995

Figure 6: Indians age pyramid



Source: OHS/IES 1995

Figure 7: Whites age pyramid



Source: OHS/IES 1995

2.3. Household size and structure

Table 2 shows the average size of the households from different income deciles and broken down by race. Income deciles were created based on the income level of households. On average for all racial groups households in lower income deciles have smaller family sizes. The family sizes increase as income deciles increase.

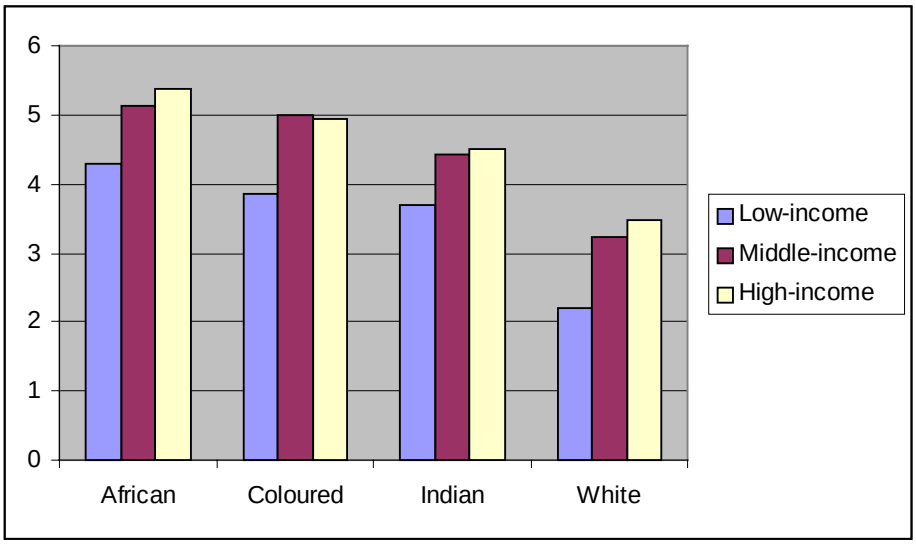
In Figure 8 three income groups are defined namely low, middle and high-income households. Lower income households are defined as the bottom 40%, middle-income households as the middle 40% and high-income households as the top 20%. Figure 8 shows that low-income groups have smaller family sizes on average. This holds for all race groups. The middle-income earning household sizes are larger than that of low-income earners for all races. High-income earning people have larger family sizes except for Coloured middle-income earning households whose household size is larger than Coloured high-income earning households.

Table 2: Average household sizes by deciles and race

	African	Coloured	Indian	White	Total
Decile 1	3.9	3.0	1.4	1.3	3.8
Decile 2	4.2	3.3	1.8	1.5	4.1
Decile 3	4.8	3.8	2.8	1.7	4.5
Decile 4	4.9	4.4	3.0	1.8	4.6
Decile 5	5.1	4.8	3.8	1.8	4.8
Decile 6	5.3	5.0	3.9	1.9	4.9
Decile 7	5.2	5.2	4.0	2.2	4.7
Decile 8	5.5	4.9	4.1	2.7	4.5
Decile 9	5.4	5.2	4.5	3.2	4.3
Decile 10	5.3	4.8	4.6	3.4	4.0
Total	4.8	4.5	4.1	2.9	4.4

Source: OHS/IES 1995

Figure 8: Household sizes by population groups and income levels



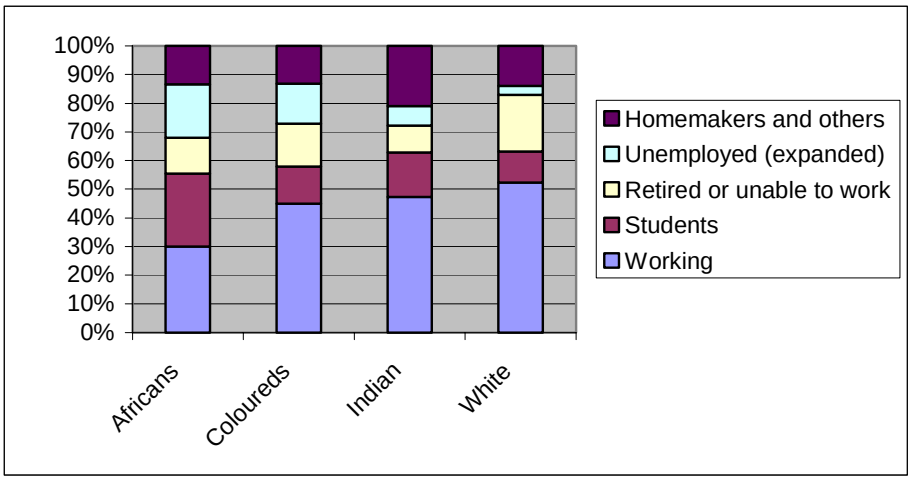
Source: OHS/IES 1995

Figure 9 shows the structure or composition of the adult population aged fifteen years and older. The composition is compared between different races. The adult population is divided into five groups, namely working people, students, people who are retired or unable to work, unemployed persons (expanded definition, see section 3.1) and 'others', which includes homemakers and people who are not economically active. Working people are defined as full-time or part-time workers, or those with "an attachment to a job" (OHS 1995 Questionnaire).

Only 30% of African individuals are classified as working adults. This is low when compared to other race groups. 45% of Coloureds, 47% of Indians and 52% of Whites have an attachment to a job. It is therefore also not surprising that Africans have the highest

percentage (19%) of unemployed people.[4] The percentage of unemployed adults is considerably lower for Coloureds, Indians and Whites. A large share of the adult African population is in full time education (25%). This is indicative that Africans on average attend schools or tertiary institutions at an older age than people from other race groups. Most Whites and Indians, for example, have left full-time education by the age of 24. Whites have the highest percentage of people who are retired or unable to work. Given the age distribution of the White population this is not surprising, as a relatively large share of the White population fall in the 60 plus age group when most people retire (see Figure 7). A fairly large percentage (about 20%) of Indians fall in the "homemakers or others" class.

Figure 9: The composition of adult households



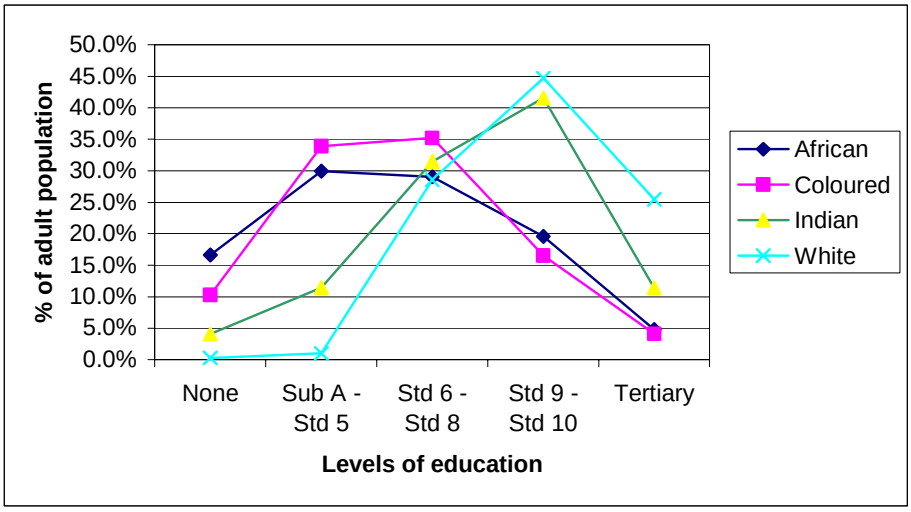
Source: OHS/IES 1995

2.4. Educational attainment

There are large differences in educational attainment between the various race groups in South Africa. Consider Figure 10, which summarises the highest level of education of individuals older than 16 years by population group. More than 16.6% of adult Africans have no education at all and 29.9% of Africans have only attended primary school. 4.8% of Africans have a tertiary qualification. Coloureds follow a very similar pattern, with 4.1% individuals without education, 33.9% with Sub A to Standard 5, 35.2% with standard 6 to 8, 16.5% with standard 9 or 10 and 4.8% with tertiary qualifications. Indians and Whites have a similar pattern of educational attainment. Large percentages of Indians and Whites completed standard 9 to 10 (41.5% and 44.7% respectively), while 25.5% of Whites and about 11.4% of Indians have a tertiary education.

[4] Note that this is not the unemployment rate, which is defined as a percentage of the economically active population, but rather the percentage of adult Africans who are unemployed (see section 3.1).

Figure 10: Educational attainments by race groups



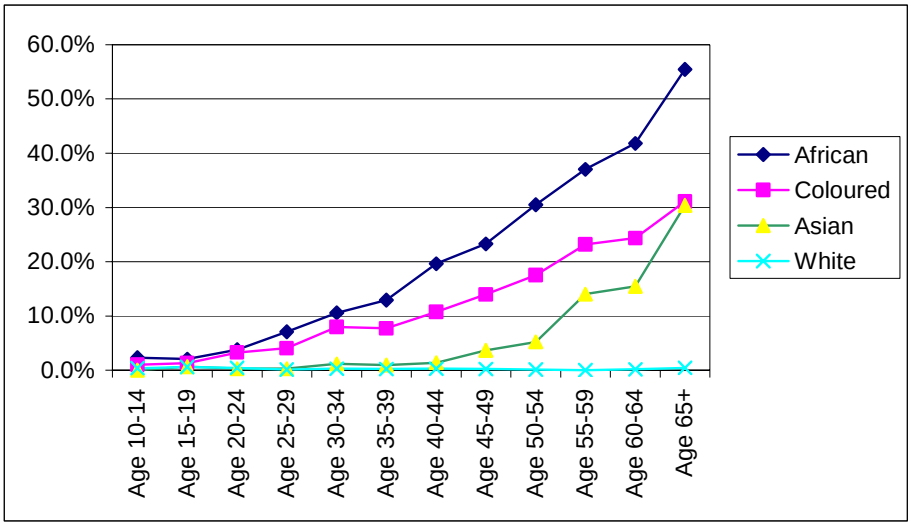
Source: OHS/IES 1995

Levels of education: equivalent years of education

None	: Zero years of schooling
Sub A- Std 5	:1 – 7 years of schooling
Std 6 – Std 8	: 8 – 10 years of schooling
Std 9 – Std 10	: 11-12 years of schooling
Tertiary	: More than 12 years of schooling

There is however evidence of an improvement in the educational attainment of South Africans over the previous years. This is evident when comparing the educational attainment within age groups across different racial groups. Figure 11 shows the percentages of the individuals in various age groups who have had no education. People in older age groups are more likely to have had no education. In contrast almost no White individuals in any of the age groups have zero education.

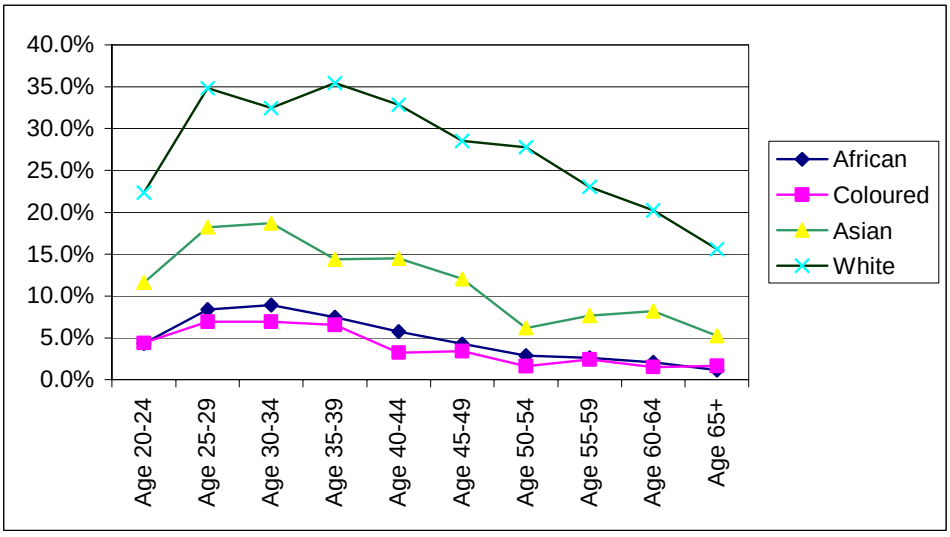
Figure 11: Individuals with zero education



Source: OHS/IES 1995

In Figure 12 the percentages of adult people aged 20 years or more that have obtained a tertiary qualification is charted. It can be seen that in all age groups across all races the younger generations are more likely to have qualified with a tertiary degree or diploma than their older counterparts.

Figure 12 Individuals with tertiary qualifications



Source: OHS/IES 1995

3. Labour markets and unemployment

3.1. Definition of unemployment

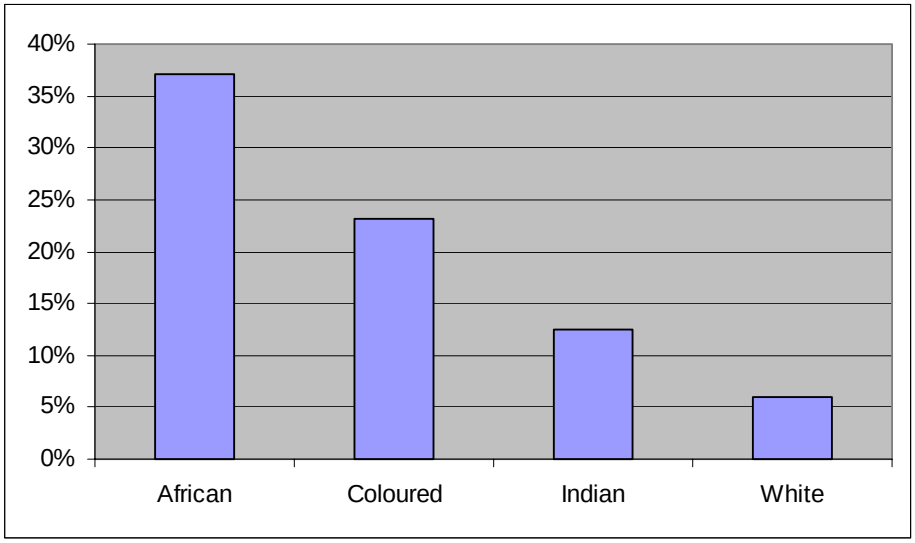
Unemployment is a phenomenon that occurs when there is a mismatch between the demand and supply of labour in the economy. The demand for labour is the number of employment opportunities available in an economy. The supply of labour is the number of the people available and willing to take employment at any time, i.e. economically active people (Cawker and Whiteford, 1993).

The OHS 1995 dataset provides information on the employment status of individuals in South Africa. The unemployment rate is calculated as a percentage of the economically active population. Two definitions of unemployment are used in the literature. The strict definition includes unemployed persons aged 15 years or older that are available for work and have taken steps to look for a job within the preceding four weeks. The expanded definition of unemployment includes individuals that have given up on searching for a job (Orkin, 1998). There are various problems with the measurement of unemployment in South Africa. The strict definition of unemployment underestimates the true unemployment level and may result in misleading labour market analyses (Jackson, 2000). The expanded definition is more often used although it can lead to overestimation of unemployment, especially during periods of recession.

3.2. Rates of unemployment

In this section estimates of the unemployment rate based on the 1995 OHS data are provided. The unemployment figures are compared across race groups, settlement, regions, province and educational attainments (see Table 3). The national expanded unemployment rate for 1995 is estimated at 30%. This compares well with Bhorat and Leibbrandt (1996) who estimated the national expanded unemployment rate at 32.6 % of the work force in 1995 using the same dataset. The estimated unemployment rate for different population groups (Bhorat and Leibbrandt's estimates in brackets) is 37% (41.1%) for Africans, 23% (23.3%) for coloureds, 12% (17.1%) for Indians and 6% (6.4%) for whites (see Figure 13). The minor differences in these estimates can be attributed Bhorat and Leibbrandt's use of weighted data. A more recent estimate by Lewis (2001) using the OHS 1999 suggests that the national expanded unemployment rate is about 36%. This suggests that the national unemployment is increasing in South Africa.

Figure 13: Unemployment by population groups



Source: OHS/IES 1995

Table 3 also compares unemployment rates between people living in rural and urban areas. The unemployment rate in rural areas is 34% compared to 26% in urban areas. However, when the strict definition of unemployment is used the unemployment rate is higher in urban areas. This shows that a greater share of unemployed people in rural areas have also given up on looking for work. Mabuza (2003) found that 65% of employment opportunities exist in urban areas. Therefore, despite the fact that strict unemployment is higher in urban areas, there is still an incentive for rural-urban migration to take place.[5] This explains why 59% of economically active people are found in urban areas.

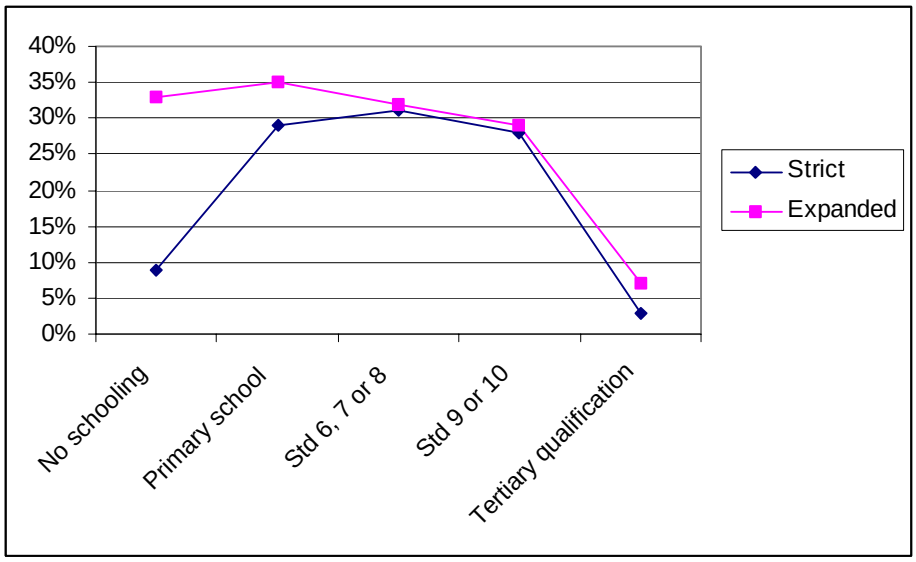
Unemployment differs quite considerably between provinces (see Table 3). The expanded unemployment rate is relatively high in the Eastern Cape (40%) and the Limpopo (38%) provinces. At the other end of the spectrum are Gauteng (20%) and the Western Cape (17%) provinces. These two provinces consistently "outperform" the other provinces in areas such as income levels, employment levels, etc.

For the purpose of the PROVIDE project all the provinces have been grouped into four regions i.e. West Coast, East Coast, Border and Centre regions. The West Coast region includes Western and Northern Cape provinces, East Coast region is KwaZulu Natal and Eastern Cape provinces, Centre region is Gauteng, North West and Free State provinces and Border region is Limpopo and Mpumalanga provinces. In Table 3 the expanded unemployment is estimated to be 36%, 35%, 20% and 25% for East Coast, Border, West Coast and Centre regions, respectively. It is highest in the East Coast and Border regions.

[5] This phenomenon is consistent with the Harris-Todaro model for urban-rural migration (Temple (1999)).

Figure 14 compares unemployment rates (strict and expanded) for different levels of education (also see Table 3). It can be seen that there is no big difference between the strict and expanded unemployment rates for people with at least standard 6 and higher. However, many people with a lower educational attainment are quite likely to give up searching for employment as is evident from the large gap between the strict and expanded unemployment rates. This is especially true for people with no education. As expected the unemployment rate drops as people attain a higher level of education, but interestingly the unemployment rate for those without any education is lower than for those with primary school education.

Figure 14: Unemployment rates by educational attainment



Source: OHS/IES 1995

Table 3: Unemployment statistics*

	Number of Econ. Active population	Percent	Number of Strict unempl	Percent	Rate	Number of Expanded unempl.	Percent	Rate
By race								
African	29186	66%	4639	77%	16%	10829	83%	37%
Coloured	6678	15%	974	16%	15%	1553	12%	23%
Indian	1684	4%	159	3%	9%	210	2%	12%
White	6361	14%	235	4%	4%	380	3%	6%
	43909	100%	6007	100%	14%	12972	100%	30%
By settlement								
Urban	25764	59%	3654	61%	14%	6779	52%	26%
Rural	18145	41%	2353	39%	13%	6193	48%	34%
	43909	100%	6007	100%	14%	12972	100%	30%
By region								
Wcoast	7475	17%	933	16%	12%	1481	11%	20%
Ecoast	15150	35%	2573	43%	17%	5421	42%	36%
Border	7629	17%	983	16%	13%	2708	21%	35%
Centre	13655	31%	1518	25%	11%	3362	26%	25%
	43909	100%	6007	100%	14%	12972	100%	30%
By province								
Western Cape	5465	12%	610	10%	11%	947	7%	17%
Eastern Cape	6905	16%	1235	21%	18%	2789	22%	40%
Northern Cape	2010	5%	323	5%	16%	534	4%	27%
Free state	4536	10%	438	7%	10%	1158	9%	26%
Kwazulu-Natal	8245	19%	1338	22%	16%	2632	20%	32%
North-West	3605	8%	460	8%	13%	1116	9%	31%
Gauteng	5514	13%	620	10%	11%	1088	8%	20%
Mpumalanga	4131	9%	518	9%	13%	1388	11%	34%
Limpopo	3498	8%	465	8%	13%	1320	10%	38%
	43909	100%	6007	100%	14%	12972	100%	30%
By education								
No schooling	4766	11%	550	9%	12%	1560	12%	33%
Primary school	11820	27%	1758	29%	15%	4179	32%	35%
Std 6, 7 or 8	11823	27%	1840	31%	16%	3839	30%	32%
Std 9 or 10	10772	25%	1672	28%	16%	3078	24%	29%
Tertiary qualification	4728	11%	187	3%	4%	316	2%	7%
	43909	100%	6007	100%	14%	12972	100%	30%

Source: OHS/IES 1995

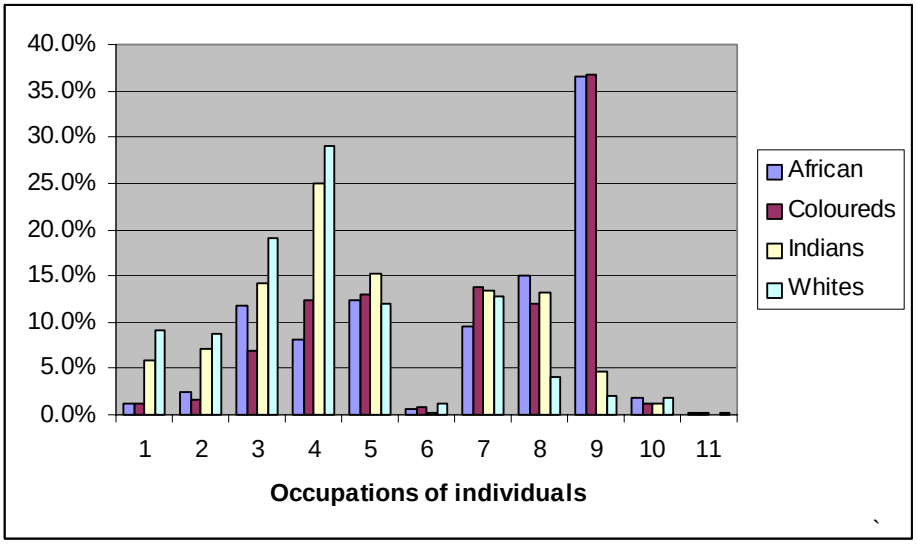
* The table shows data at survey level, not national level.

3.3. Occupations in the economy

Figure 15 shows the occupations of the employed people in the economy. It shows that elementary occupations such as cleaning, garbage collecting and agricultural labour are the major occupations for the Africans and Coloureds. About 36.6 % and 36.8 % of the Africans and Coloureds, respectively, are employed in these occupations. Many Whites and Indians are employed in clerical positions. Whites are the largest in highly skilled occupations followed

by Indians. These positions include managers and senior officials, professionals and associate professionals. A small proportion of the Africans and Coloureds are employed in highly skilled occupations.

Figure 15: Occupations of the individuals by races in the economy



Source: OHS/IES 1995

Legend: Occupations of individuals
1 = Managers and senior officials,
2 = Professionals,
3 = Associate professionals,
4 = Clerks,
5 = Service workers,
6 = Skilled agricultural workers,
7 = Crafts and trades workers,
8 = Plant and machine operators,
9 = Elementary occupations,
10 = Unspecified occupations
11 = Armed forces.

4. References

Bhorat H. and Leibbrant M., (1996). *Understanding Unemployment. The relationship between unemployed and the Jobless.* In Baskin J. (ed.). Naledi: Randburg.

Cawker G. and Whiteford A., (1993). *Confronting Unemployment in South Africa*. HSRC Publishers: Pretoria.

Hofmeyr N., (2000). 'The Changing Pattern of Segmentation in the South African Labour Market.' *Studies in Economics and Econometrics*. Volume 24, No. 3, 2000, p109-128.

Jackson J., (2000). "*Voice and theory in South Africa's unemployment crisis*" www.wits.ac.za/economics/journal/unemployment.htm

Lewis J.D., (2001). *Policies to promote growth and unemployment.* World Bank.

Mabuza C., (2003). *Is competition policy to blame for increasing unemployment?* www.compcom.co.za

Orkin F. M., (1998). *Living in South Africa.* Central Statistical Services: Pretoria.

SSA (1997a). *Income and Expenditure Survey, 1995*. Pretoria: Statistics South Africa

SSA (1997b). *October Household Survey, 1995*. Pretoria: Statistics South Africa

Temple J., (1999). *Income Distribution in Harris-Todaro Model*: www.nuff.ox.ac.uk/users/Temple

Background Papers in this Series

Number	Title	Date
BP2003: 1	Multivariate Statistical Techniques	September 2003
BP2003: 2	Household Expenditure Patterns in South Africa – 1995	September 2003
BP2003: 3	Demographics of South African Households – 1995	September 2003
BP2003: 4	Social Accounting Matrices	September 2003
BP2003: 5	Functional forms used in CGE models: Modelling production and commodity flows	September 2003

Other PROVIDE Publications

Technical Paper Series
Working Papers
Research Reports